## TANNER INDUSTRIES, INC.

735 Davisville Road, 3rd Floor Southampton, PA 18966

Phone: 215 - 322 - 1238 FAX: 215 - 322 - 7791

# **CERTIFICATE of ANALYSIS**

Product: AQUA AMMONIA ( AMMONIUM HYDROXIDE)

Grade

REAGENT

Date

06/19/2012

Customer

U.G.I UTILITIES/HUNLOCK CREEK POWER

Location

HUNLOCK CREEK, PA

Purchase Order#

316110/JEFF STEE

Trailer # / Tractor # :

701

Plant Location: PHILADELPHIA, PA

Lot Number

061812BH-19

Assay (% NH3 by Weight)

19.42 %

Appearance

Other (\*)

Clear, Water-White

Sales Order #

493572

An asterisk (\*) notes values listed are typical

Signed

Colleen Sotan

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1 of 1

Prepared by

QC/QA (AQUA COA.DOC)

Revision

01/09/2003

Approved by

QC/QA

Form #

QM-9.3-COA-030109.01.01



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#### **ABOUT US**

**Tanner Industries, Inc.** is a family owned and operated business comprised of four (4) Divisions.

- · National Ammonia Company
- · Bower Ammonia & Chemical
- · Northeastern Ammonia
- · Hamler Industries







We operate 19 strategically located facilities that provide product and service to all Eastern and Central Time Zones of the United States, and as far West as Denver.

Our company's highest priority is to supply quality product in a safe and efficient manner, and as members of the National Association of Chemical Distributors we have implemented the RESPONSIBLE DISTRIBUTION PROCESS. Responsible Distribution is a quality assurance program dedicated to protecting the health and safety of employees, communities, and the environment.



### **OUR HISTORY**

Tanner Industries, Inc. is a third generation, family owned and operated distributor of anhydrous and aqua ammonia whose headquarters are located in Southampton, PA. The roots of our family business date back to December 31, 1954 when Lawrence Tanner, the grandfather of the current management, along with his three sons Richard, Edward and Raymond purchased the National Ammonia Co. from E.I. DuPont. Although Lawrence was active in the business, he immediately named his middle son, Edward, President of the company. At the time, National Ammonia Co. was an unprofitable, local cylinder distributor that operated out of a facility in Northeast Philadelphia. One of the first things Lawrence did after buying the business was to buy a flatbed truck to deliver the cylinders to our customers, rather than having to use common carriers to deliver them, and soon thereafter the business was turning a profit. In 1971 National Ammonia Co. acquired one of its major competitors, the Henry Bower Chemical Manufacturing Co., from Diamond Shamrock. Two additional purchases were to follow: Northeastern Ammonia Company was acquired in 1985, and Hamler Industries in 1991. In 1977 Tanner Industries, Inc. was formed as a parent to the operating divisions and is the name that the business operates under today.

Edward Tanner ran the business until his death in 1984. At that time Richard, the oldest of the three sons had already retired from the business and Raymond was named President. Raymond ran the company until 1990 when he named Stephen "Brad" Tanner, the middle of Edward's three sons who were active in the business, to the position of President, representing the third generation of Tanner management. Today Brad continues to run the business.

Since the purchase of National Ammonia Co. in 1954 the company has grown from that local Philadelphia cylinder distributor into one of the largest anhydrous and aqua ammonia distributors in the United States, selling its products in cylinders, drums, totes, I.t.I. bulk,

full truckloads and rail cars. While we still operate locally out of that original plant in Northeast Philadelphia, the offices were moved to Southampton, PA in 1998 and we have added 18 additional plant facilities around the country. From these facilities we make upwards of 20,000 deliveries per year, 97% to 98% of which are made by our own drivers in our own equipment. We operate a truck fleet today that has grown from that original flatbed truck in 1955 to over 200 tractors and trailers. We also maintain a fleet of 150 rail cars.

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Facility and Distribution Locations:

AL :: Lincoln

FL :: Apopka IL :: Belvidere

IA :: Council Bluffs

LA :: Natalbany

MD :: Havre de Grace

MI :: Inkster

MO:: Neosho

NC :: Butner

NC :: Fayetteville

OH :: Lima

PA :: New Castle

PA :: Philadelphia

PA :: Tamaqua RI :: East Providence

SC :: Swansea

WV:: Morgantown

WV:: Mount Hope

#### LOCATIONS

**Tanner Industries, Inc.'s** extensive network of dedicated equipment and facilities, combined with our product knowledge and highly trained personnel, provides you with the convenience of dealing with one company.



Facility and Distribution Locations\*

© Corporate Headquarters\*

\*mouse over area on map to see city and state name

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ANHYDROUS AMMONIA

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QUALITY

SAFETY

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#### Common Uses for Aqua Ammonia

- :: Chemical, Pharmaceutical
- :: & Petroleum Industries
- :: Agriculture
- :: Resins
- :: Polymers
- :: Acid Neutralization
- :: Water Treatment
- :: Cogeneration NOX
- :: Scrubber
- :: Explosives

#### AQUA AMMONIA

About Us

Please click here to download a detailed manual on aqua ammonia (pdf).

#### **Properties**

Aqua ammonia, also called ammoniacal liquor, ammonia liquor or ammonia water is produced by dissolving ammonia gas in

water. Its proper chemical name is Ammonium Hydroxide.



The grades, or strength of Ammonium Hydroxide usually available commercially are 26° and 21° Baumé. However, Tanner Industries, Inc. can produce any strength to meet our customers requirements. The Baumé reading refers to a specific gravity scale. A 26° Baumé solution is equivalent to 29.4% and 21° Baumé solution is equivalent to 19.68%, both by weight of ammonia dissolved in water. Since the Baumé reading varies with temperature, the reading is standardized at 60°F. The density of the material compared to water is 0.8974 (to see a table with more data download our aqua ammonia manual by clicking here (pdf)).

Aqua ammonia is corrosive to copper, copper alloys, aluminum alloys and galvanized surfaces. Aqua ammonia is an excellent acid neutralizer. Its pH varies with concentration. Typical values are 11.7 at 1%, 12.2 at 5%, 12.4 at 10% and 13.5 at 30%.

The freezing point of a 26° Baumé solution is about -110°F. See the freezing point of other concentrations by downloading our aqua ammonia manual (pdf).

An aqua ammonia solution has a vapor pressure which varies with temperatures. At ambient temperatures, the vapor pressure of 26° Baumé material just about equals atmospheric pressure. Aqua ammonia should be stored in a closed container and kept cool, otherwise, the ammonia gas will come out of solution and the material strength will be reduced.

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